Fort Myers Notebook, N-86-04-07

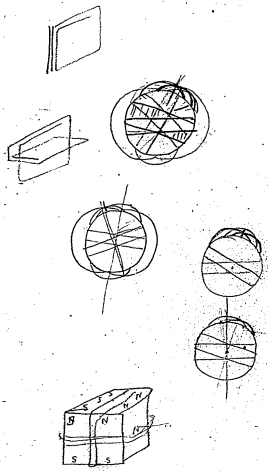
This notebook covers the period April-May 1886. All of the entries are by Edison. Many of them concern the direct conversion of heat into electricity, the lines of force of the earth around the sun, and atomic and molecular structure. Included also are notes and drawings relating to armature windings and connections, the phonoplex, the grasshopper telegraph, the tasimeter, electric railways, an archimedes screw to propel a steamer, the manufacture of silk, and the separation of butter, cream, and water from milk. The spine is labeled "28." The book contains 286 numbered pages.

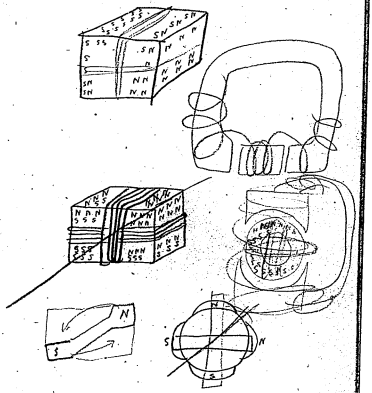
Blank pages not filmed: 42-43, 92-99, 214-215, 242-243, 276-286.

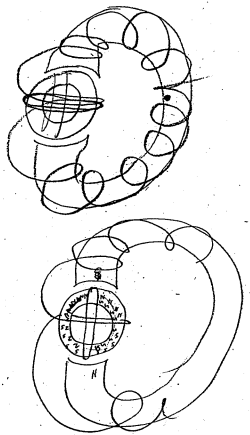
Missing page numbers: 17-18, 263-264.

XE-172

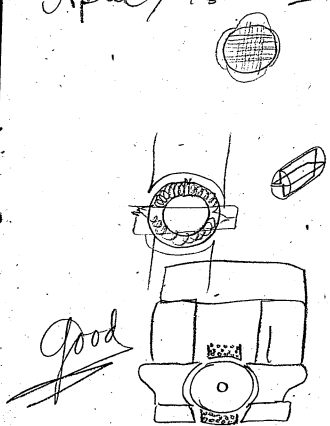
N-86-04-07



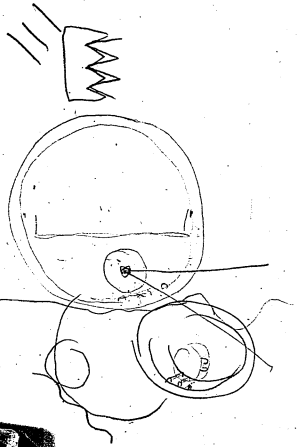


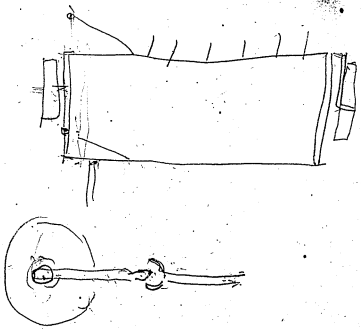


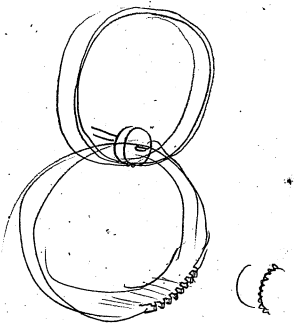
April 7 1888 Joe



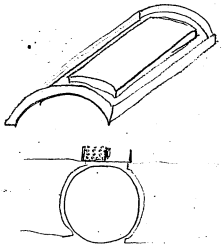
Wind each turn round the one before
gimp from wind at right angles -
Then each loop will be parallel
& coil only ½ will cut field lines of
force when used in motor



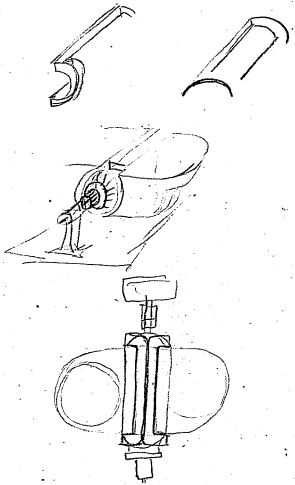


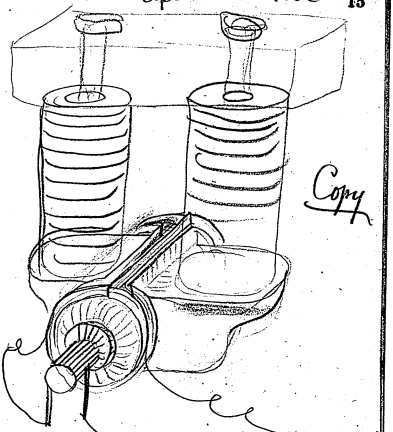


12



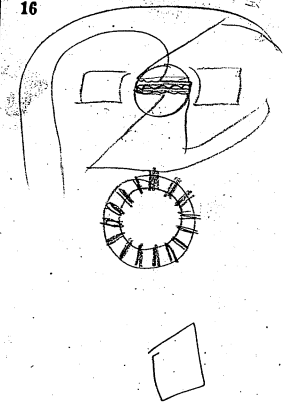
13



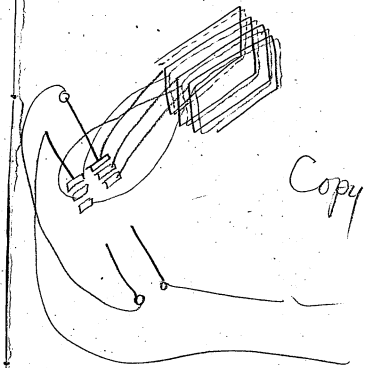


Copy

Extra coil fixed on outside of armature + at right angles to coil on armature with main Current through it having same magnet axis as armature.

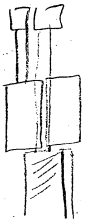


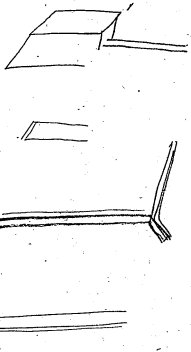
April 8 1886

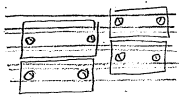


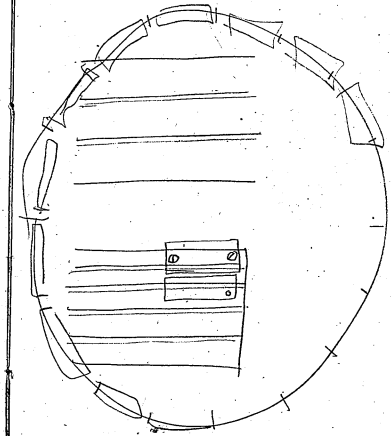
Copy

Two seperate and dictinct windings on one armature each with seperate Commutator 60 watts each — The two are connected in series at the brushes so the Current of one tends to make armature in armature the opposite of the other

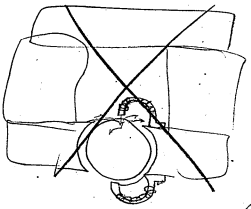






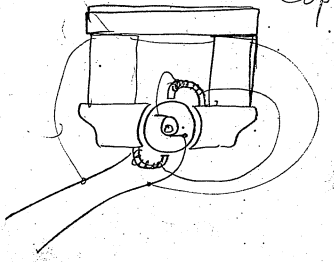


April 8 1886 rad



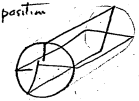
OK

Copy



April 8 1886 TOE Copy this

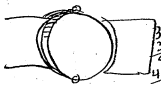
Wind armature thus one turn around then before going to commutator another turn round but at right angles to so on winding in regular way. Thus 1/2 the wire is useless but helps to [illegible] the lines of force [illegible] so the result is same as only 1/2 were so used on loaded armature anyway owing to position of brushes.



40

60.

60.



396

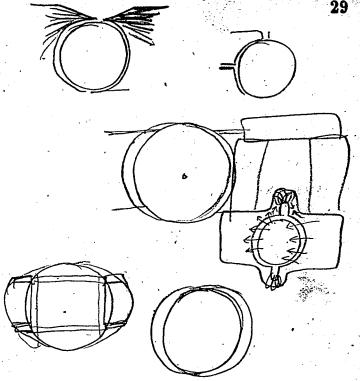
60.

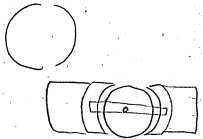
1

25

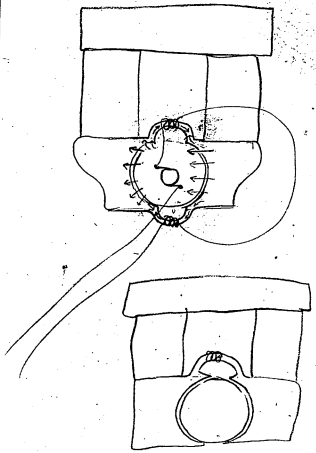
60

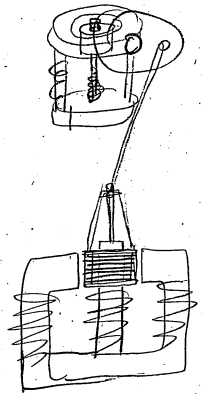
1500.

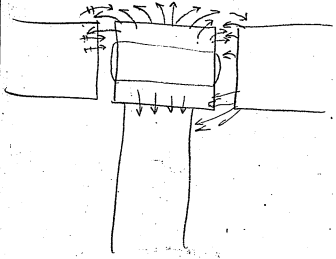


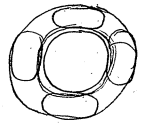


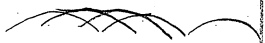
April 8 1886 Tal

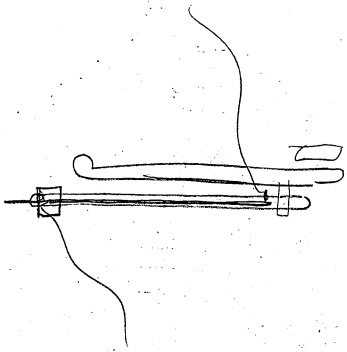


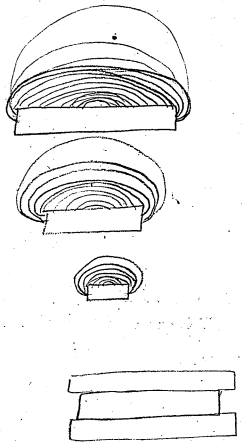


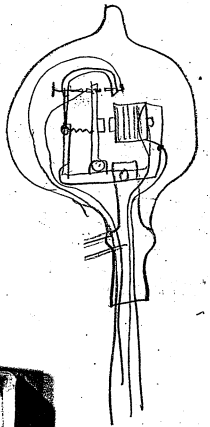


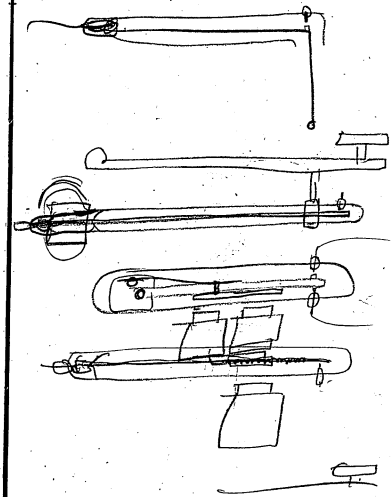


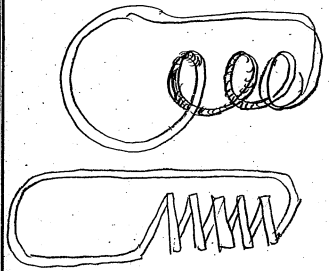


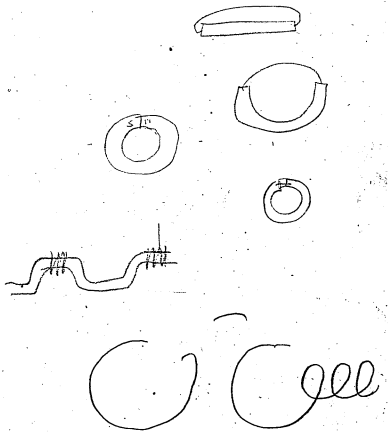


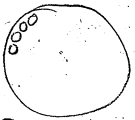


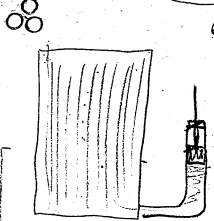




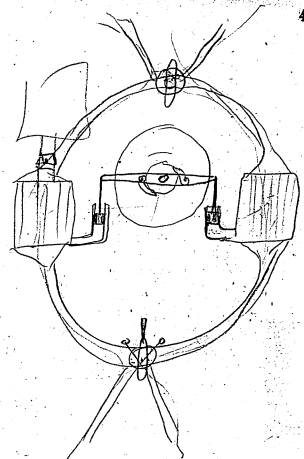




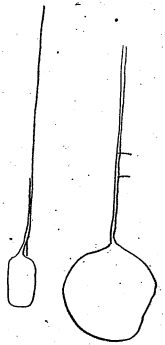




100.
213.
212.
130 –
600 – 213.
730,
212.
108 –
108 –
730,
838,
120,
730

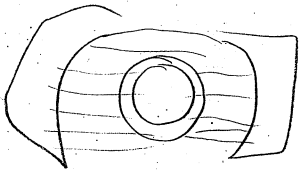


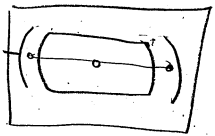
Fasimeter

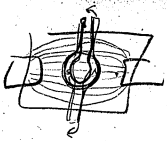


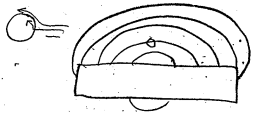
50

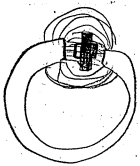
212

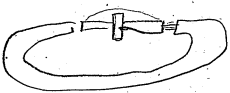


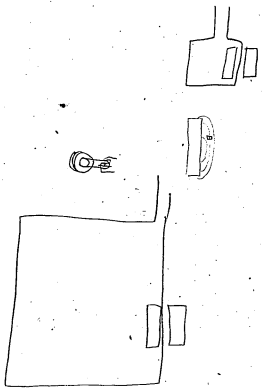




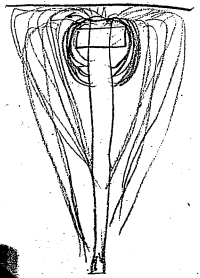




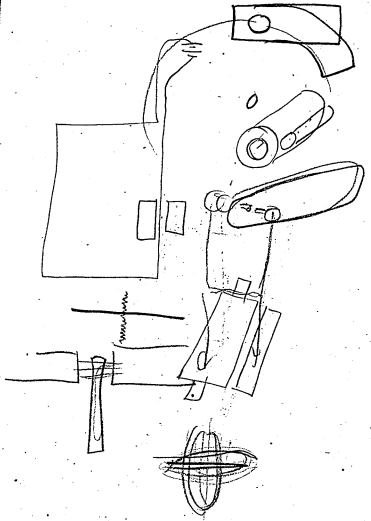


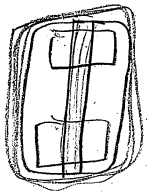


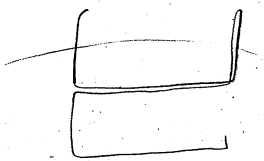
52

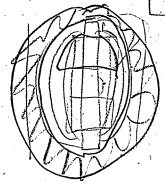


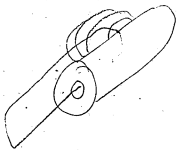
53

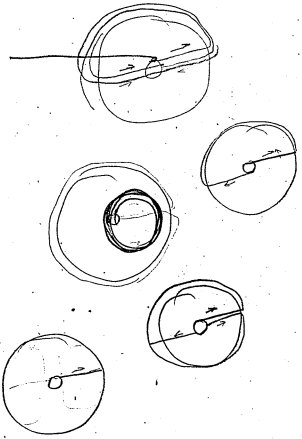


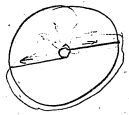


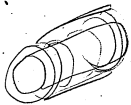


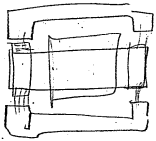


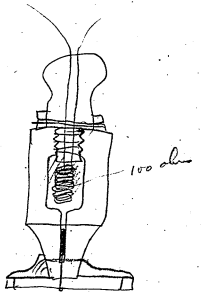


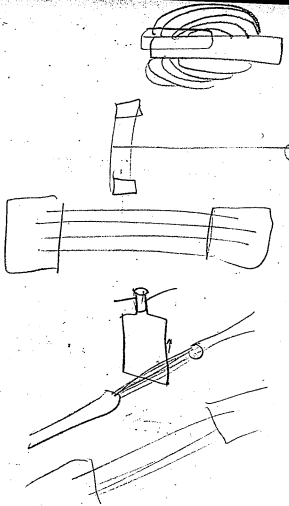


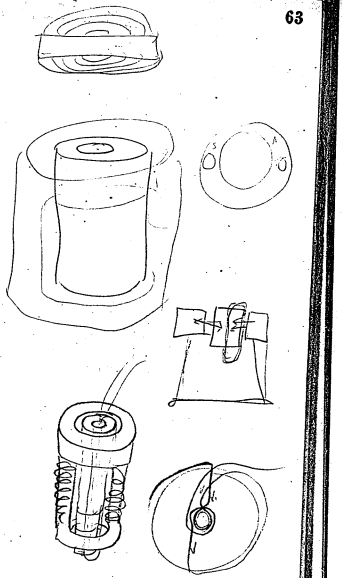


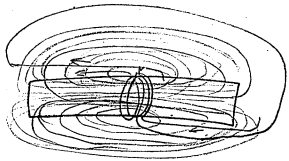


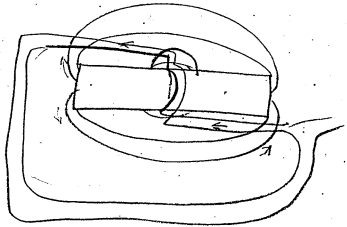


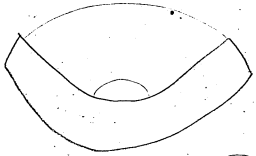

100 ohm

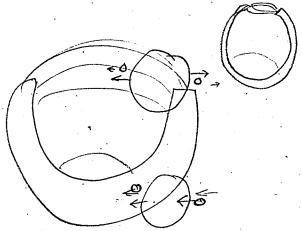


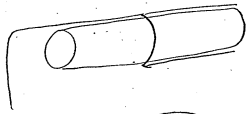


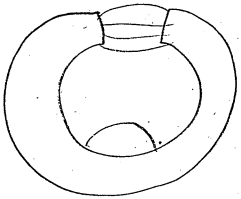


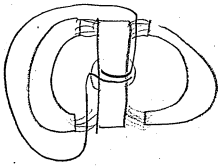


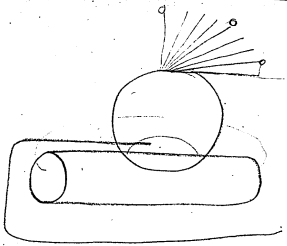


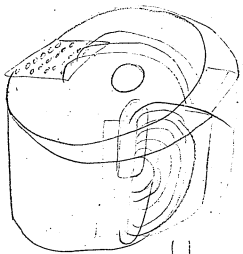


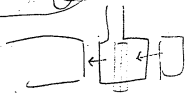


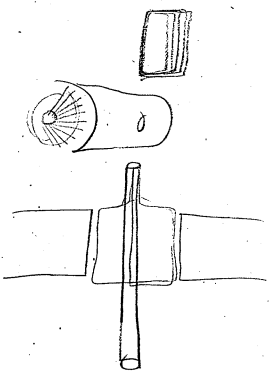


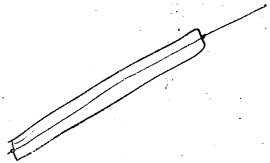


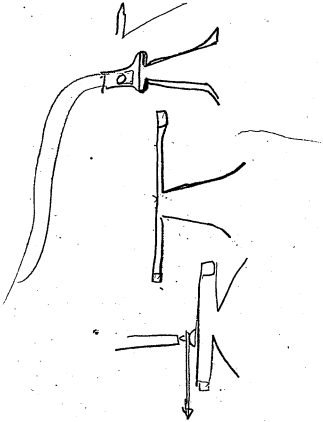


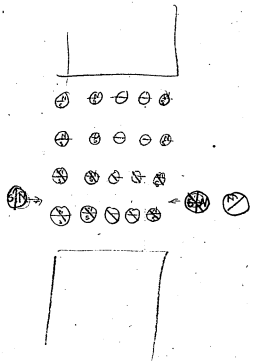


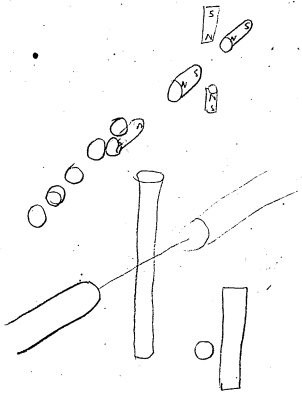


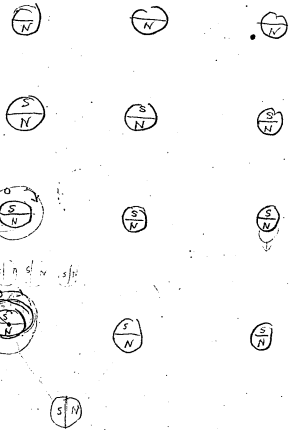


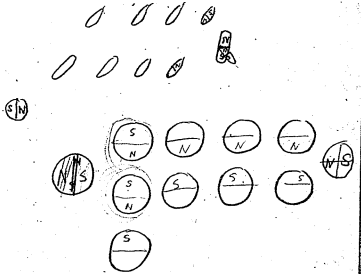


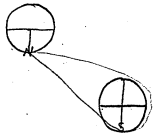


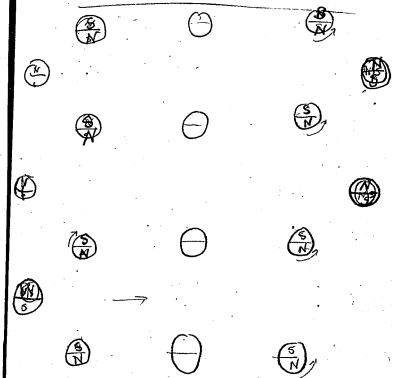


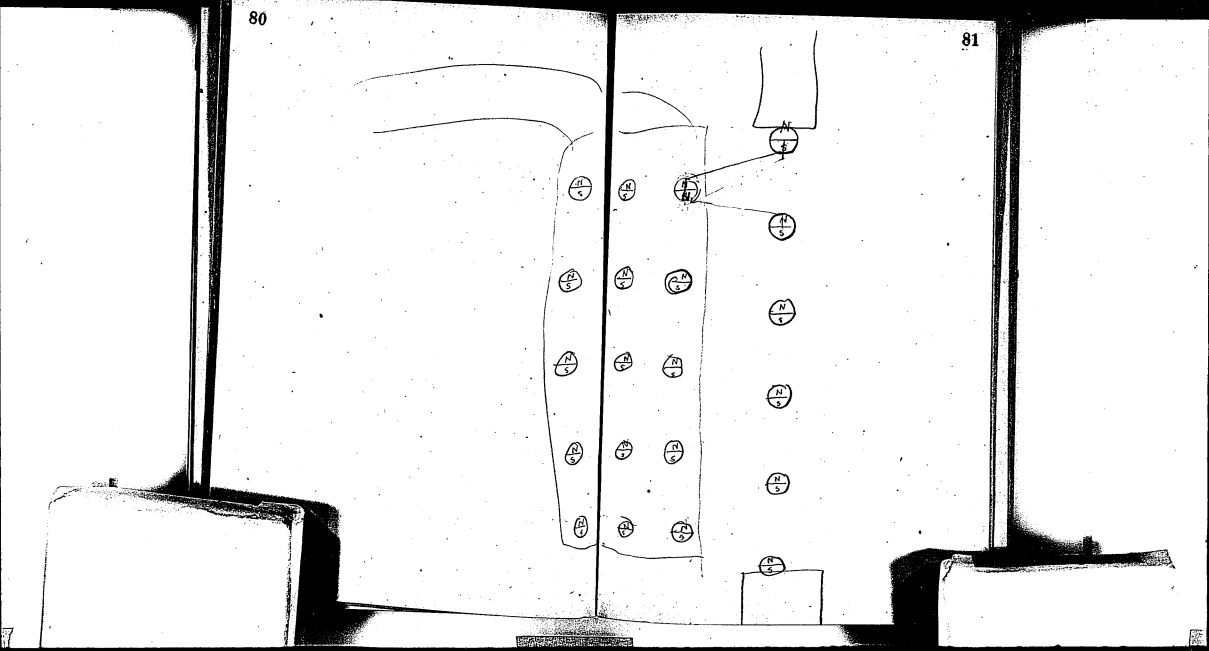

S
W

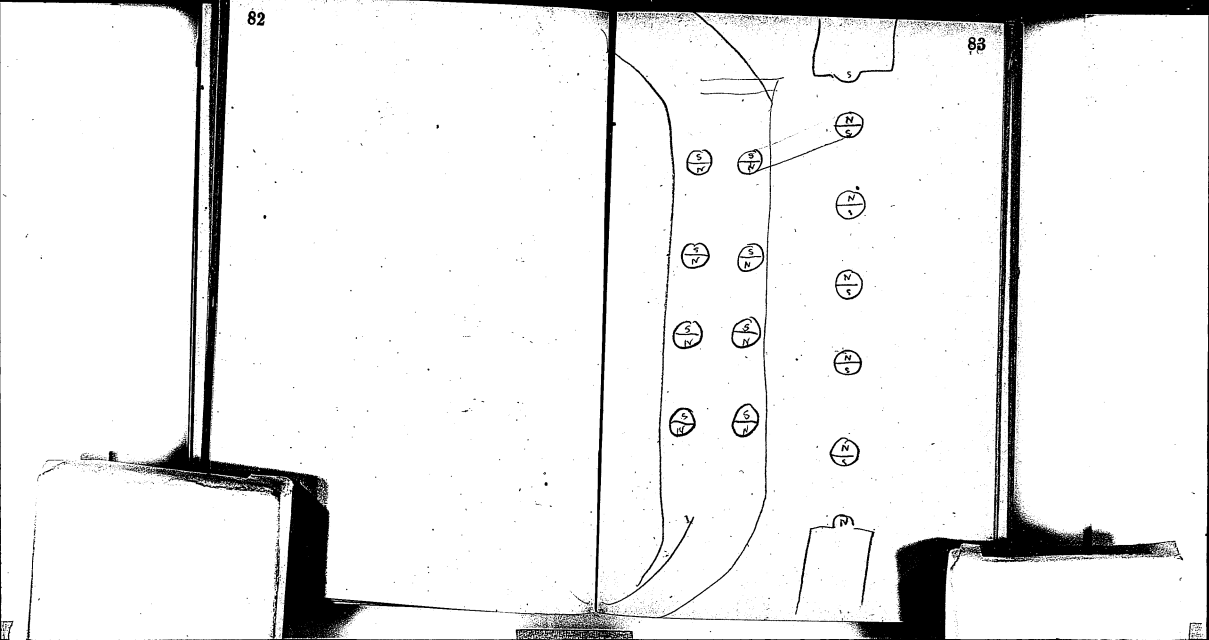


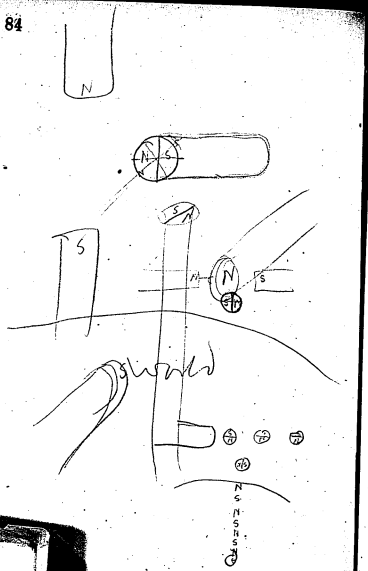


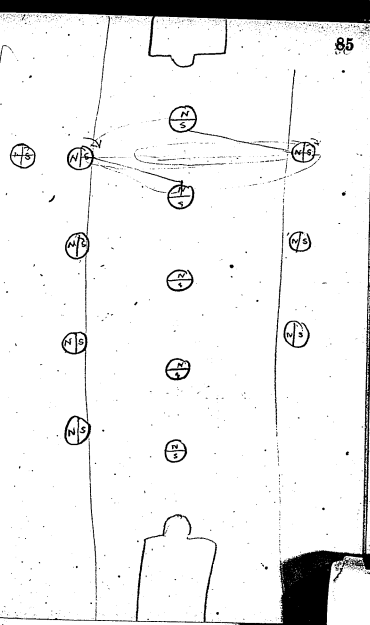


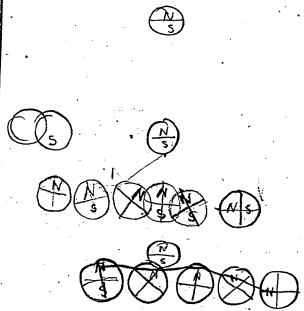


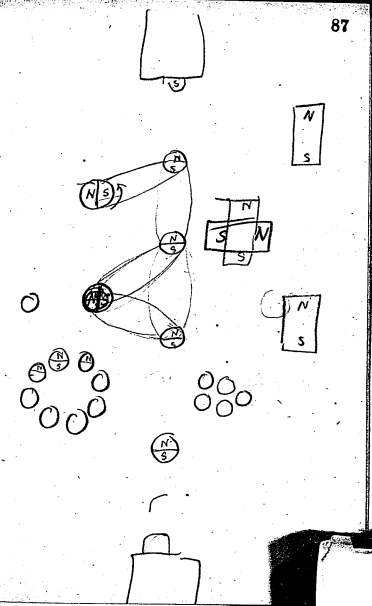








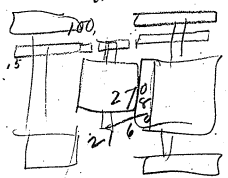




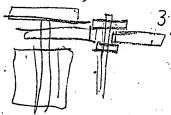
2000
1500
1000
2000
3 3 1 0 0 0 100
3750

150

60



9 3750,



3750
9
5-0

3750. / 33000 / 337 5-0 / 9

9. 30 / 27 0

4

27 0,

10

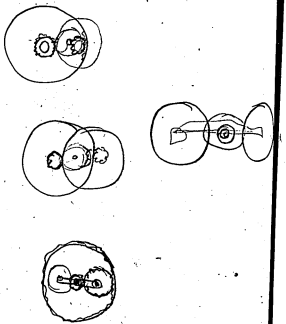
30

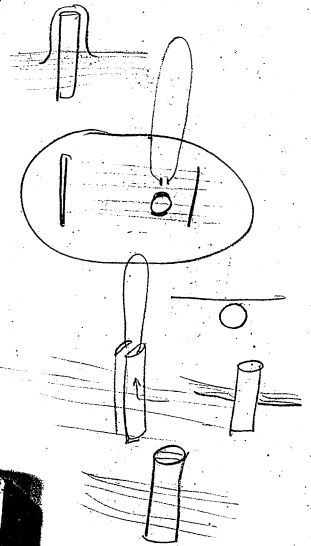
30

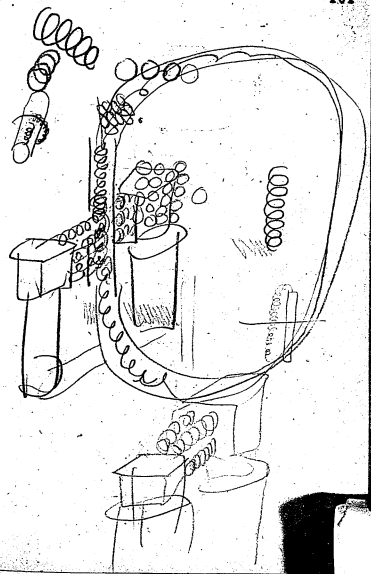
1200

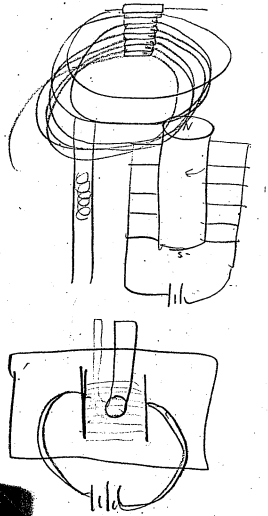
1500
30
3750 270 20 / 12 / 45000 / 36 90 54 / 60 60 / 3750
5-40 0.

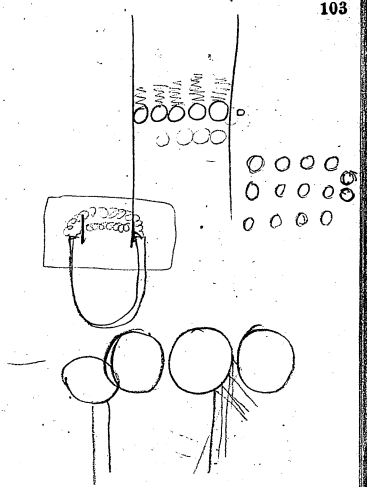
270
13 5-0
2 7 0
40 5-

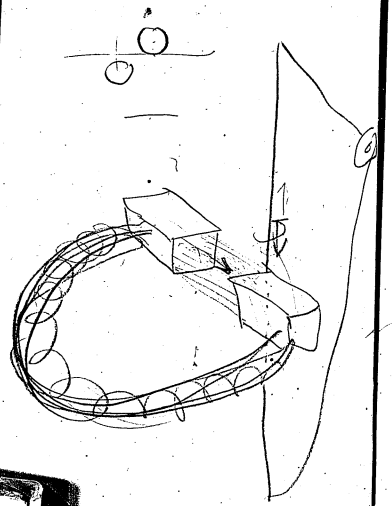


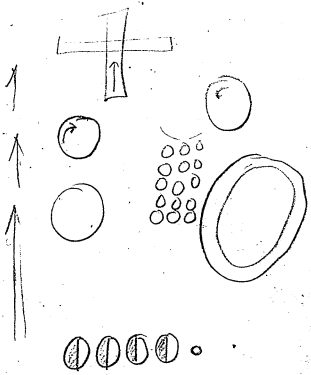


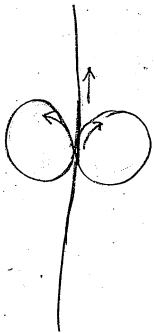


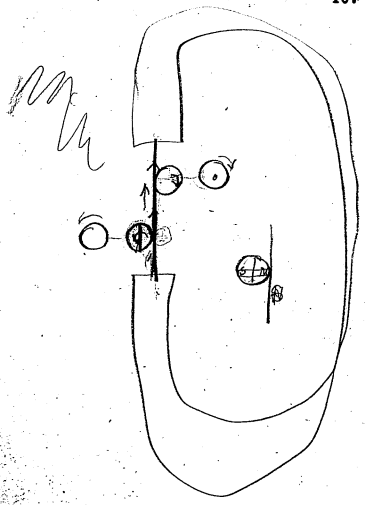


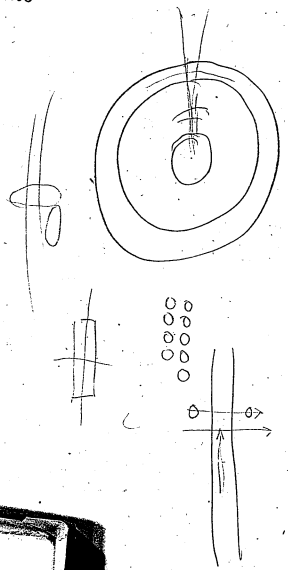


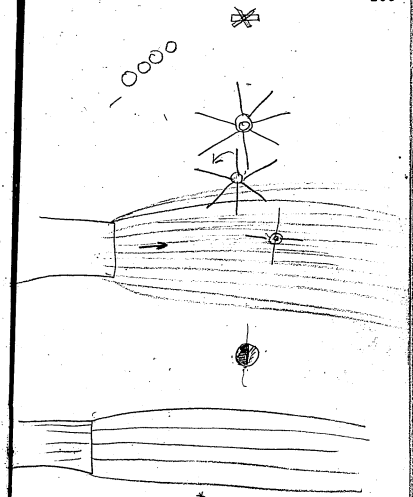


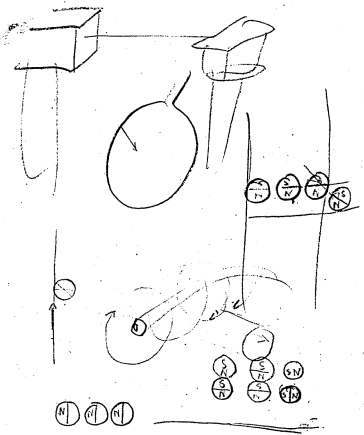


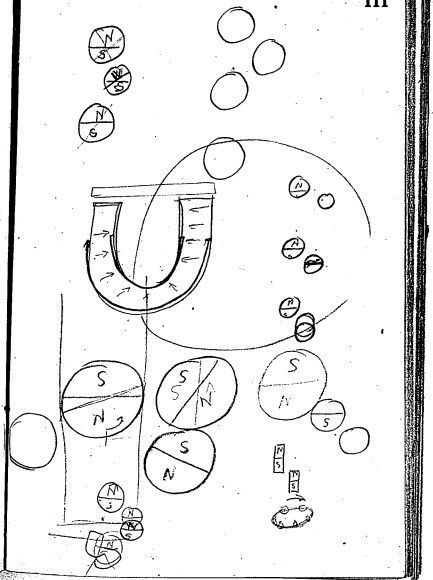


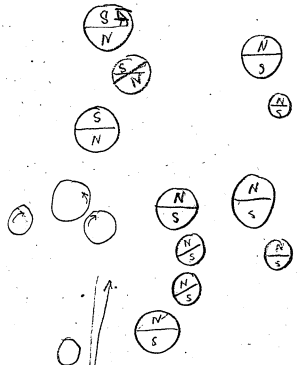


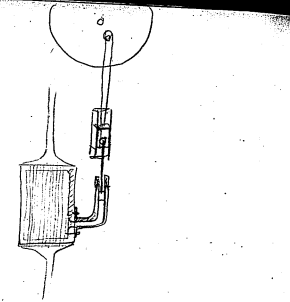


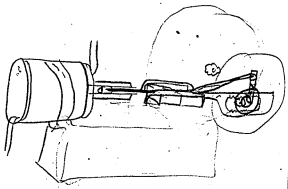







S
N
N
S
S
N
N
S
S
N
N
S
N
S
N
S
N
S
N
S





190
60
6 | 310.
21-4

21'32.
68.
112
180
32
21

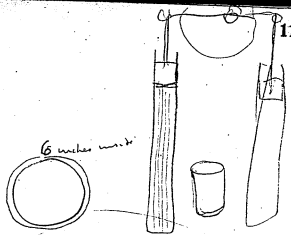
960. | 2.64
740
200
2280
2000
16

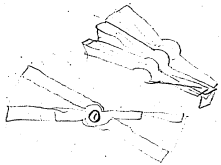
340 | 1280.
960

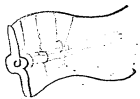
6 degrees inch
2.64

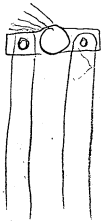
264
12
28
3
264
29.6

30 | 190 | 6.
180

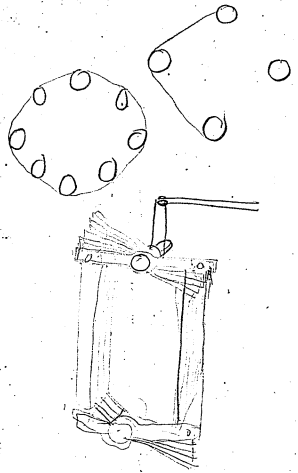

6 inches wide
36.
24.
64.
48. inches -
150.
180.
850.



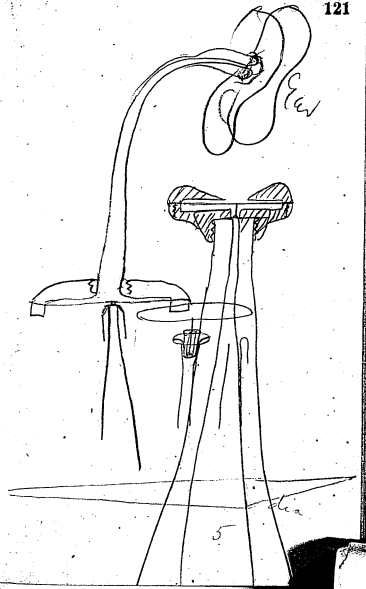


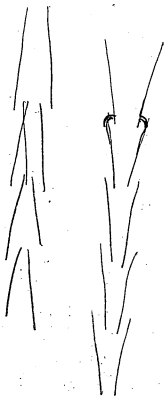


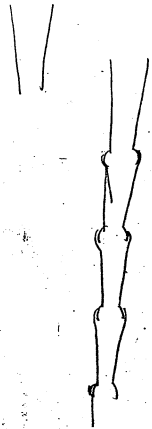
120

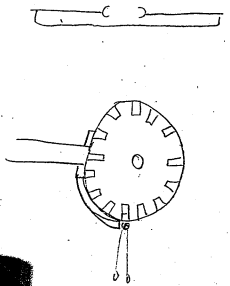


121

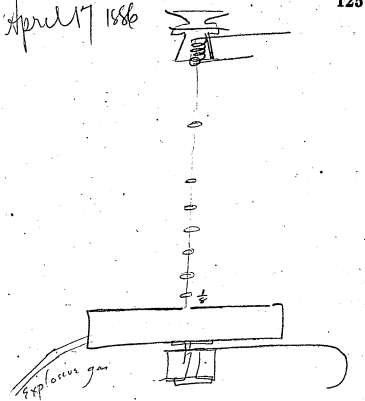




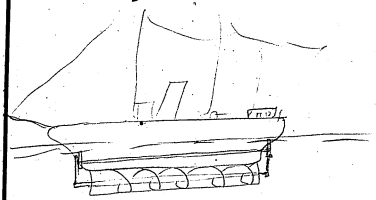




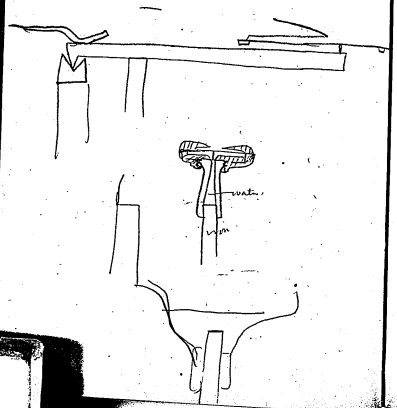
April 17 1886

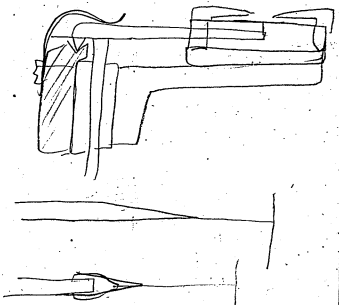


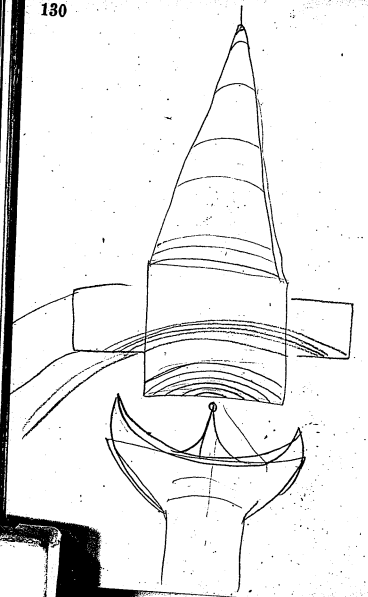
April 16 1886 at 2

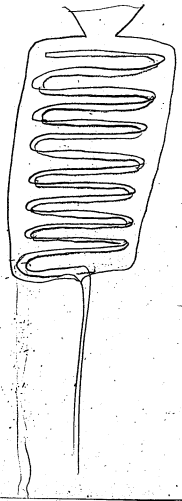


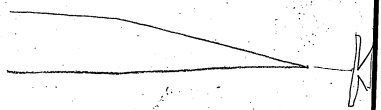
Archemedes Screw to propel Steamers

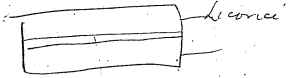










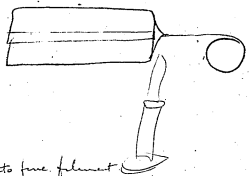


Heat + draw out to side

April 16 1886 –

Mfr Silk –

glue mixed with Bichromate Potash in proper portion & enclosed in Hydrocarbon



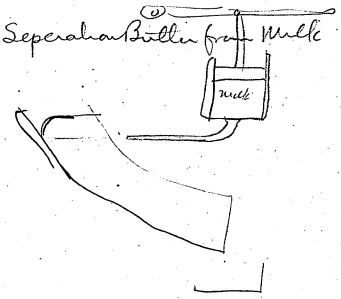
drawn out into fine filament then dissolved in a Solvent of the Hydrocarbon & resultant Bichromated Glue which is insoluble when exposed to sun to render insoluble

Mf Sick -

Bases - Collodion - Cupric chlor/paper
gutta - Rubber dissolved in Benzene or
Bisulphide - Rubber in Bengal mixed
with as much Rosin + other Hydrocarbons (Egypt)
as it will take ~~united~~ look smoothed together +
not be too brittle, — Balata + also
with Hydrocarbons, — with Rubber etc
Exterior could be glue, Licorice,
Molasses Candy — a fabric of
various lengths could be made
by working Molasses candy ~~with~~ over
+ over by pulling + many Rubber
solution or Balata + Rosin Compound.
dissolving off — water,

April 16 1886 tas

Seperation Butter from Milk



Milk forced in very fine streams at great velocity against an exceedingly fine point when breaking globules thus moves down angle 60 and slowly while milk flows gradually

April 16 1886 [illegible]

Separation Butter from Milk

Try Graham Dialysis — use also Electricity through porous diaphms.

Use porous diaphms various thickness + substances + use Vacuum underneath use air pressure on one reciprocation to free the pores of globules the next reciprocation use Vacuum to draw through water of milk — the idea is to get the water out + leave the globules —

April 16 1886 Tue

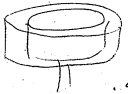
Separation Water from Milk -

= Evaporate in Vacuum -

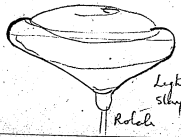
Freeze it -

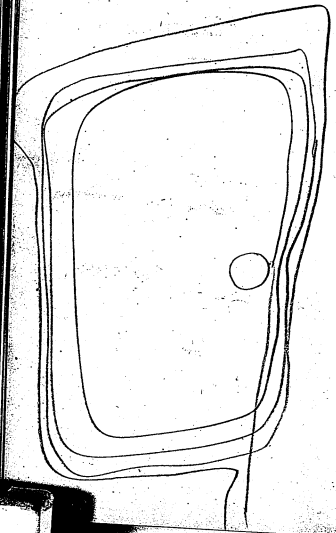
Try filtering it through a tube containing large quantity of fine powder. use Vacuum - wash Cream out of powder

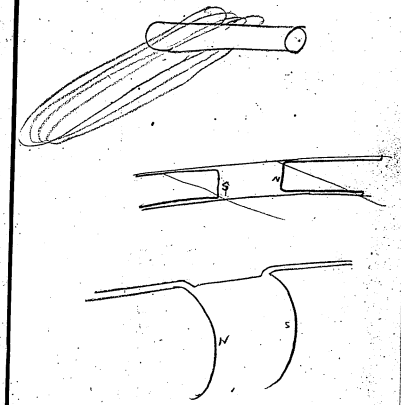
~~Cream~~

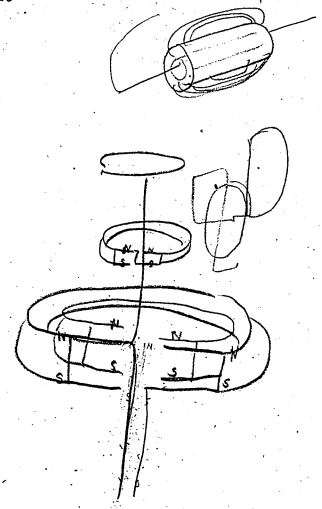


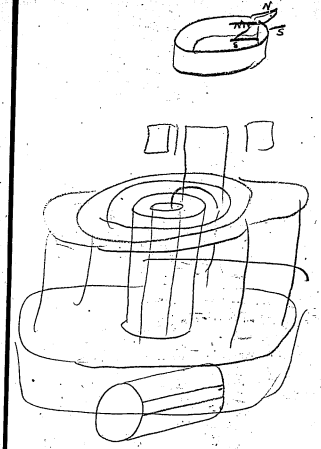
Centrifugal through a porous substance

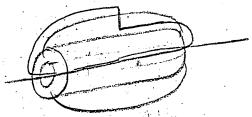


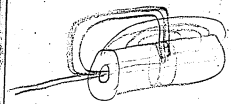


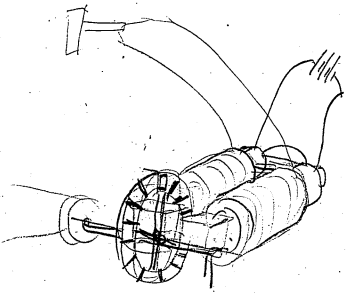

S
N
N
S

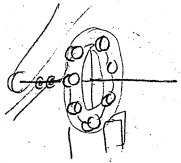

N
N
N
N
S
S
S
S

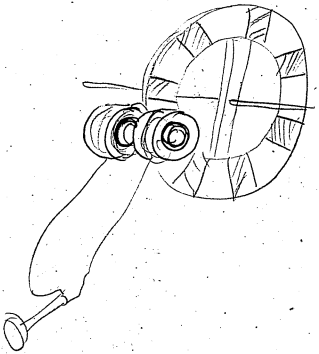

N
S

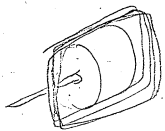


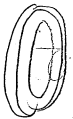


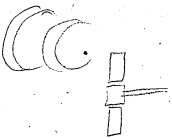


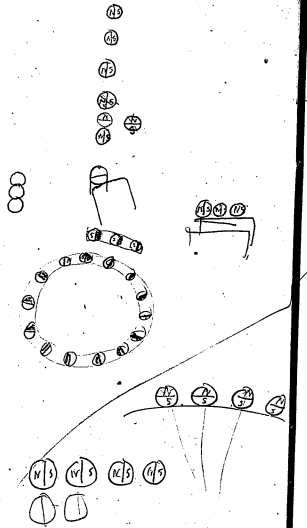


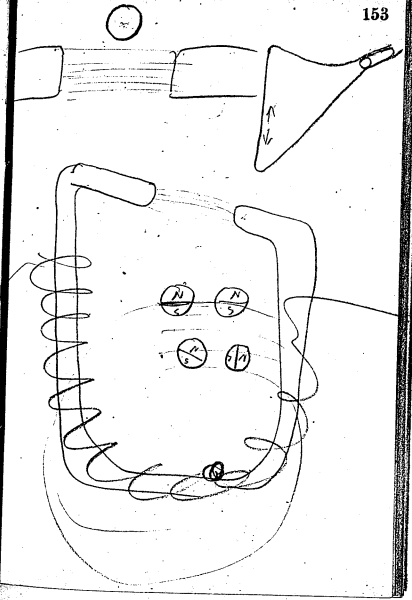


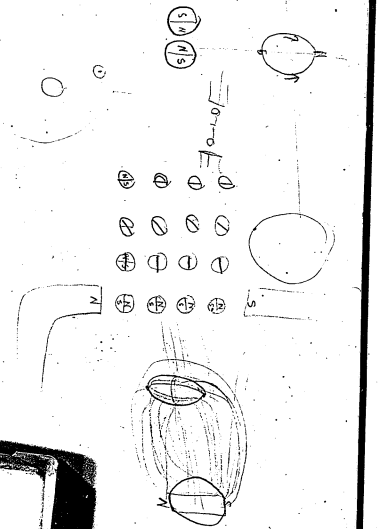


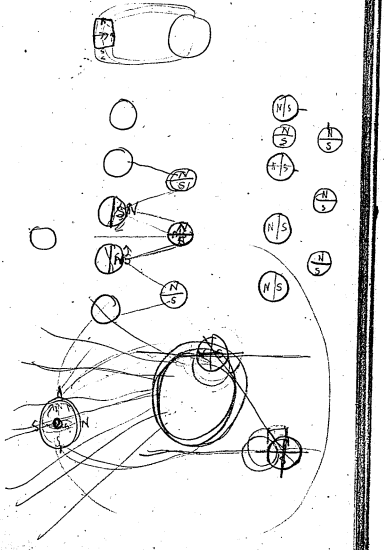


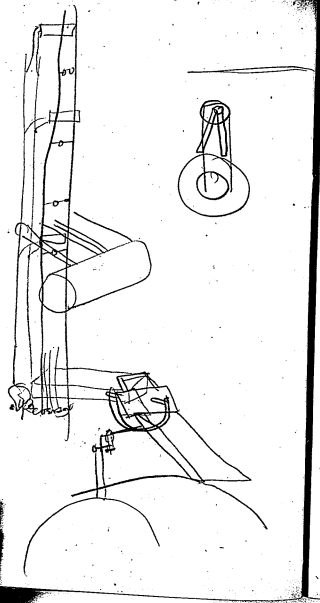


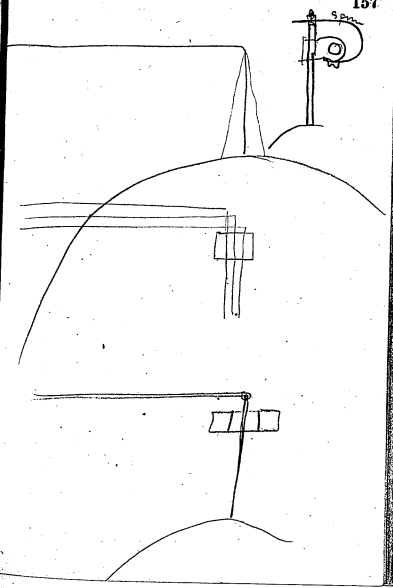






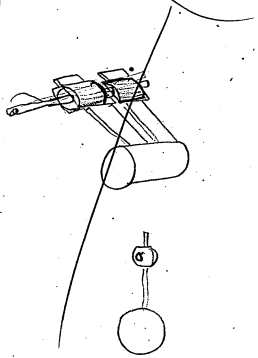


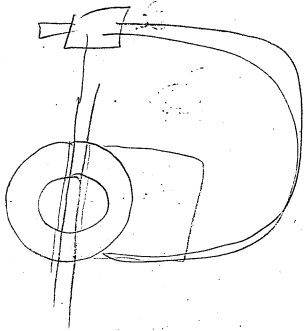




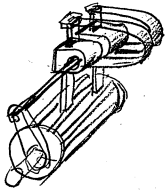
April 17 1886

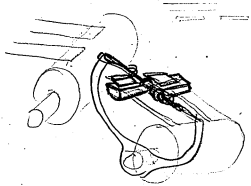
Elec RR

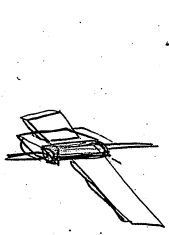


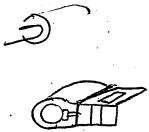


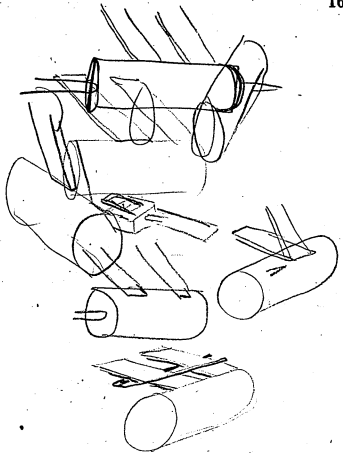
April 17 1886 E.R.R.

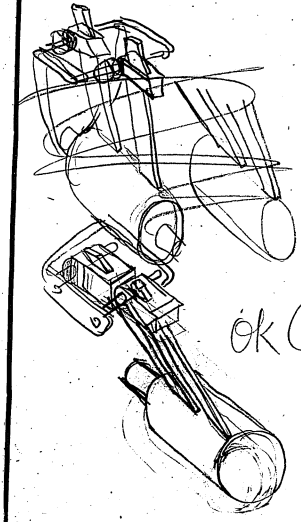










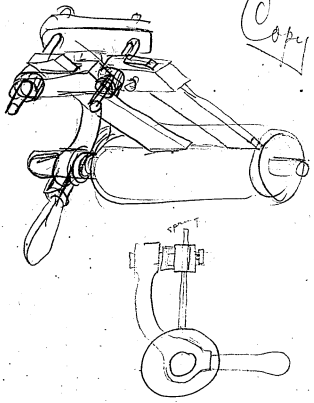


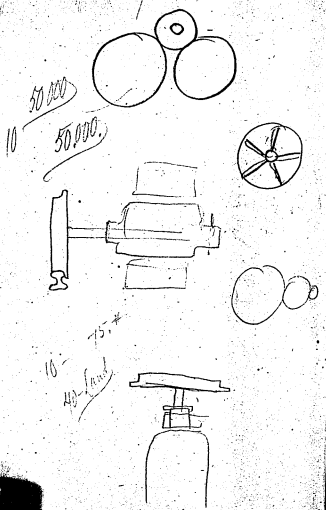
ok Copy

April 1st 1869

E.R.

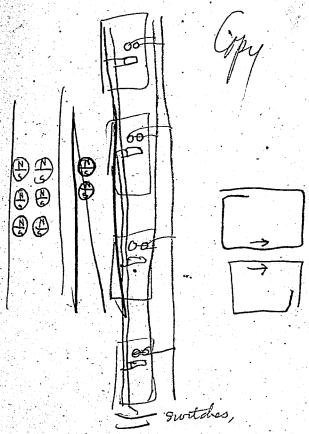
Copy



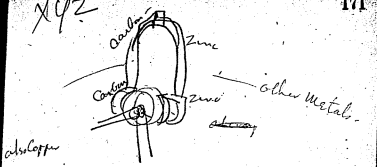


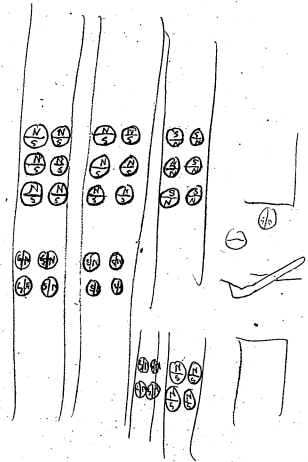
April 1886

Copy



XYZ

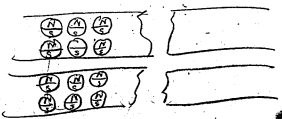

Carbon
Zinc
Carbon
Zinc
other Metals
also Copper
also
at right angles
Carbon
Zinc
potential galvanic
of particles
wire wound both
ways
Carbon
Zinc

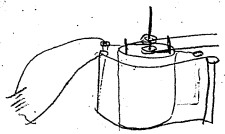


X 42

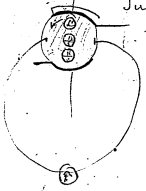
Q. Electricity appearing in a wire is given off as heat. Then a wire heated and in being conducted physical under proper conditions has current in it.

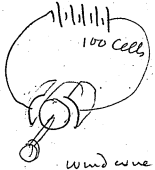
The application of heat to a wire + letting it conduct to in form a magnetic field bright to give E



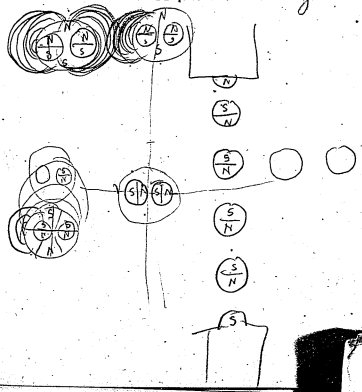


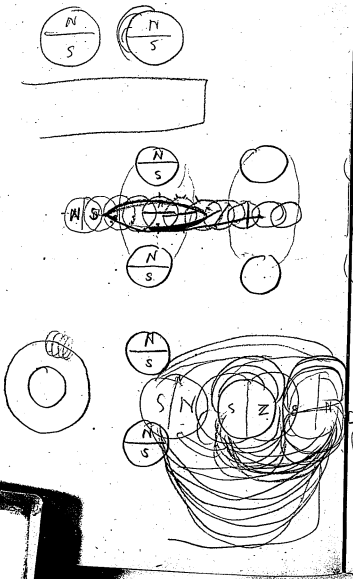
bottle full
Turpentine

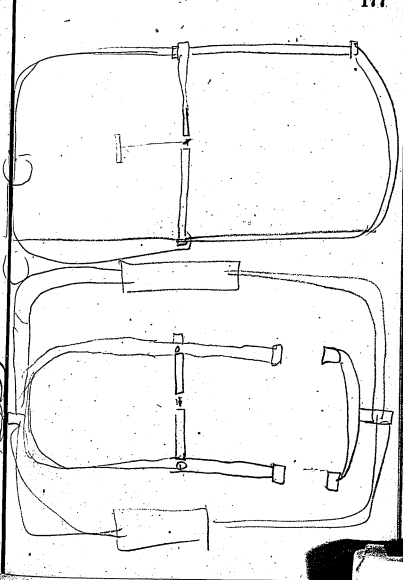




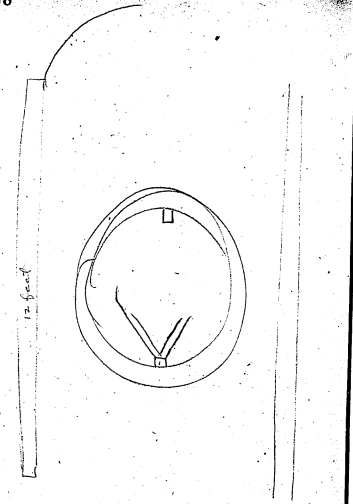
wind wire both ways
use Hard rubber Cylinder



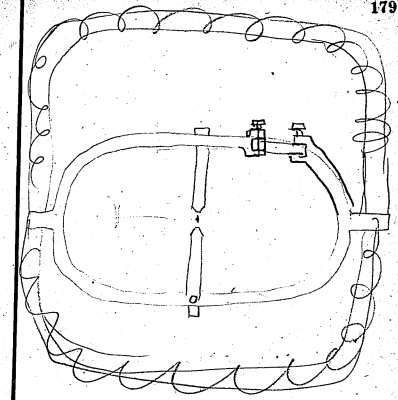

N
S
N
S
N
S
N
S
N
S
N
S
S
N
S
N
N
S

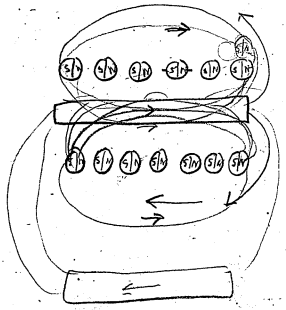


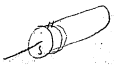
178



179



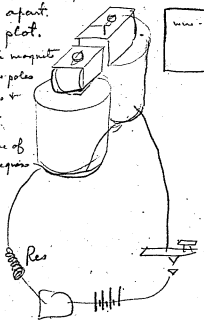




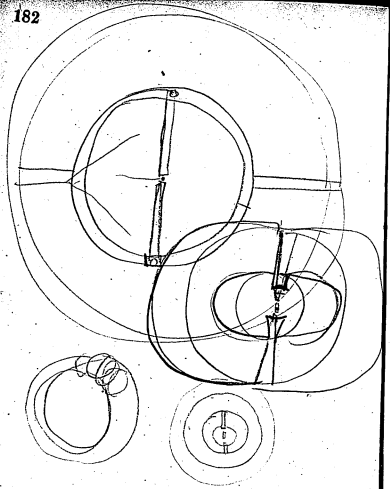
Fundamental Expmt

39 with Seconds pendt

determine accurately
The Relative E.M.f with the poles
1 ft distance apart.
in thousands plot.
also substitute magnets
with Exactly same poles
but dif lengths +
make comm —
also run curve of
E.M.f at dif degrees
of saturation
with poles at
various dist —

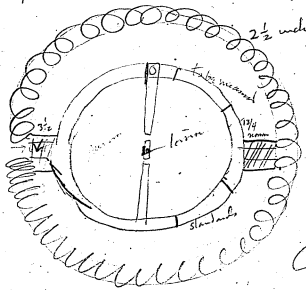


Pendulum should only make a
single swing



April 17

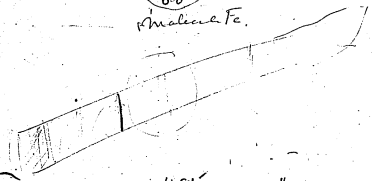
fundamental Magnetic Equal



Copy

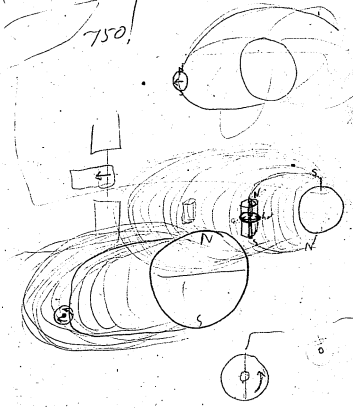
Magnetic Bridge -

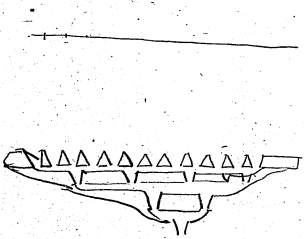
Malleable Fe.

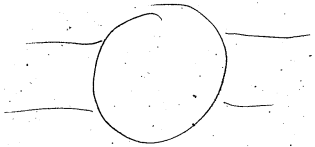


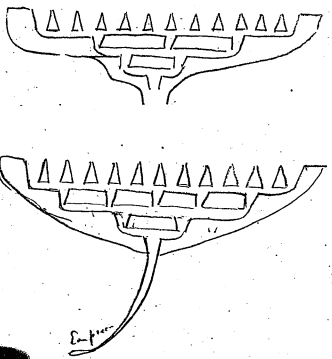
350. 485 11

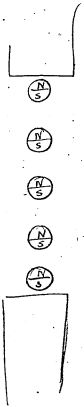
750.

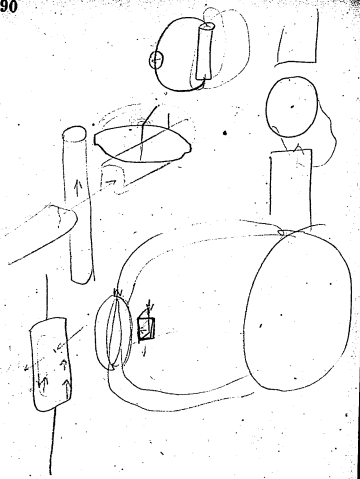




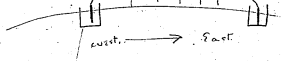





N
S
N
S
N
S
N
S
N
S



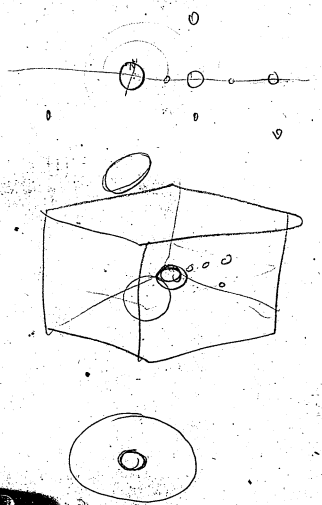
The rotation of the Earth around the sun.
Cut the lines of force Emminating from the sun, the rotation of this causes one side of the Equator to be N + the other side P but not. Connect. Now the rotation of the earth on its own axis causes the Equator in one half the earth to be neutralized



porous cell filled with Sulphate Zinc + amalgamated Zinc
Electrode.

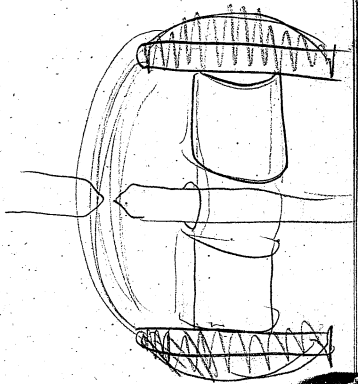
test if there is a Current from East + west or north + south.
2500 feet apart.

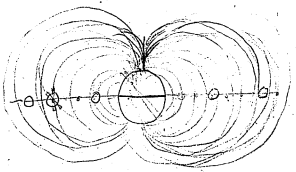
+ increases the other thus a strong current Circulates around the earth from East to west. This Causes a north + South magnetic pole. The mutual attraction of the whole Equator from the tendency of the Earth to Learn to orbit

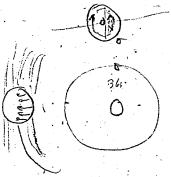


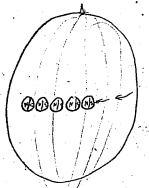
The motion of the earth due to the seasons has to be explained

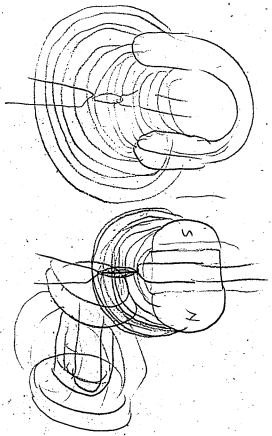
The sun must have an orbit then which produces a disturbance or displacement of the lines of force






34

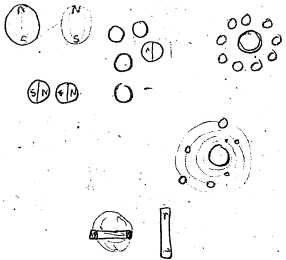


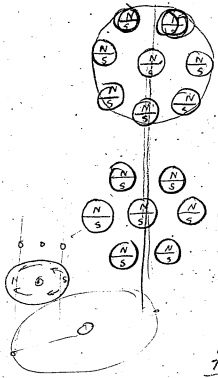


all atoms have a N-S polarity
The N of the atom points equatorially
not towards the South Earth
pole - gravitation is an mutual
electrical attraction of all the atoms
The reason of the difference of
weight of different substances
is that each substance has a
different number of atoms
or molecular groups. the atoms
of each molecule are closer together
being greater in number in each
molecule in diff substances
The Molecules may all be the
same distance apart The
Total attraction is greater for
the Earth as the molecules atoms
are greater - all substances

All substances we call Elements are composed of Molecules of diferent atoms all atoms are primal hence matter is composed primarily of one substance, the primal Molecule, Our Solar system is a Cosmical Molecule.

diffrent Molecules say of Iron are composed of as many atoms as there are lines on the spectrum Each atom has a diferent motion in the molecule, each atom rotates on its axis with inconceivable velocity





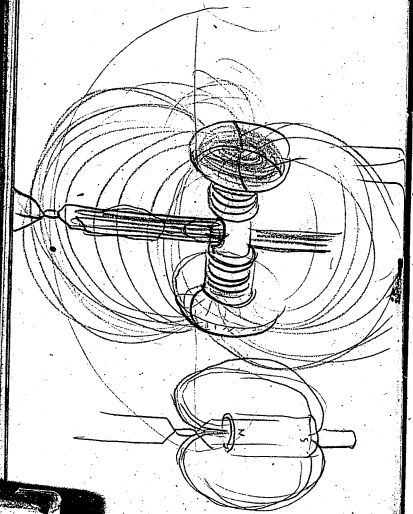
24

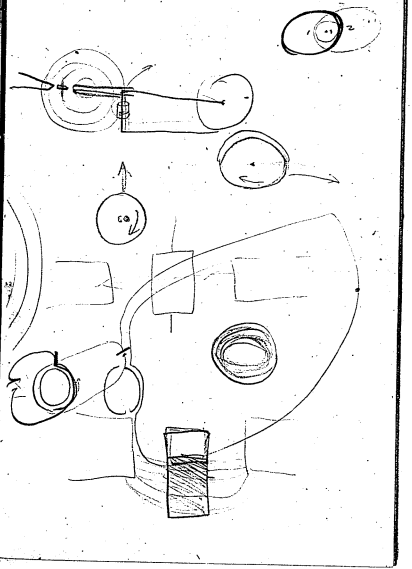
365
24 000
146 000
730
8,760,000

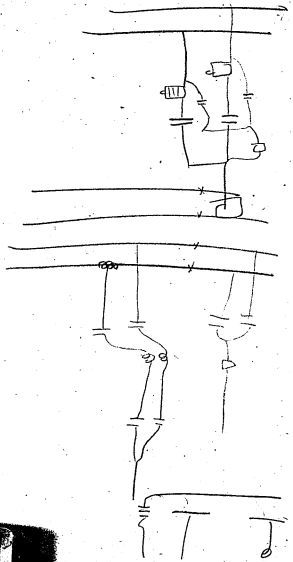
93
186
3
558.000.

4

9 / 558.162.
54
14



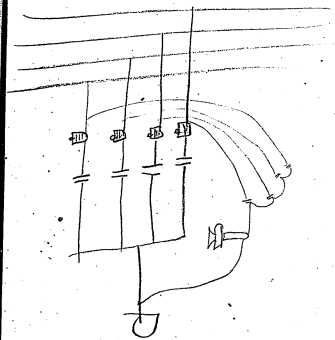




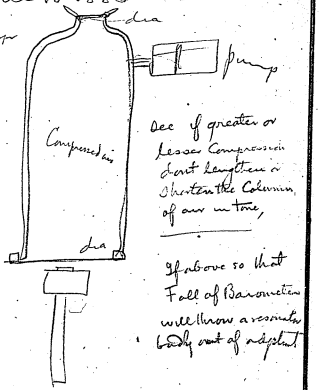
April 18 1886 Tal

Grasshopper —

To get rid of heavy undulatory waves



April 10 1886 Tues

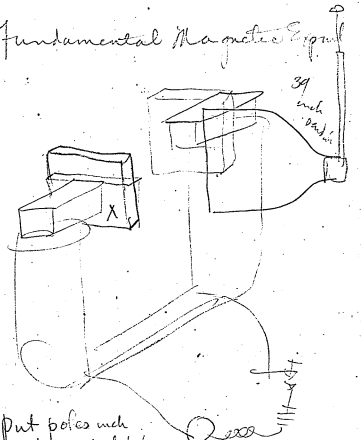


See if greater or lesser Compression & Exhaustion lengthens or shortens the Column of air in tone,

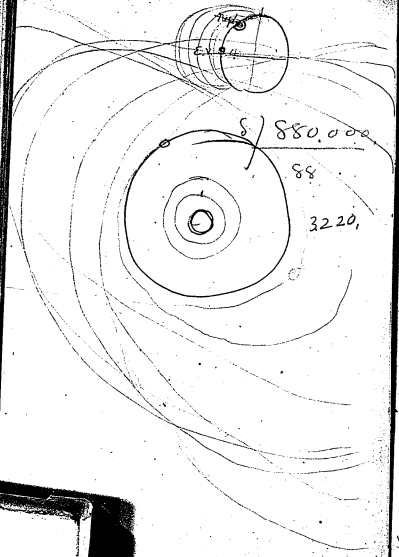
If above so that Fall of Barometer will show a reasonable body out of adjustment

April 18 1886

Fundamental Magnetic Experiment

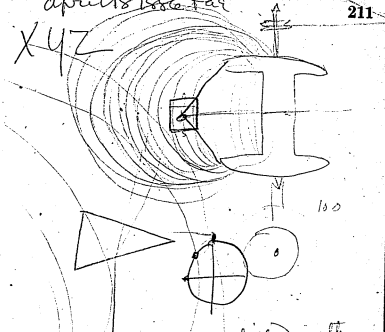


Put holes such apart + then make lot of piece X through which lines from must pass + see if there is any such thing as Specific Magnetic Induction Capacity



April 18 1886 T.A.E.

X Y Z



Pass wires + tubes filled with liquids parallell + at right angles through a prismatic beam of light.

Pass a beam of Violet light down a liquid in a tube + pass the tube parallell + at right angles to a beam of white light also change the

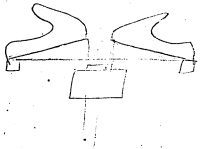
18 to sec

40 40

April 18 1886 to 8

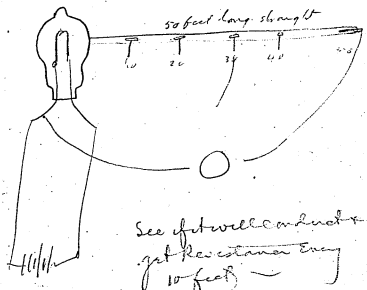
Trifurcheocerus Expansus

Fr

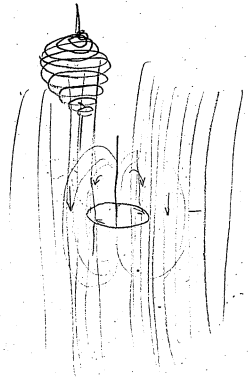


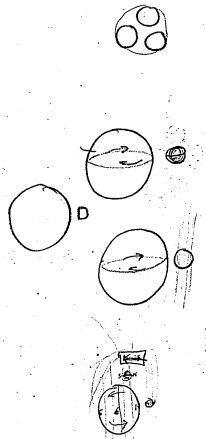
April 18. 1886 for

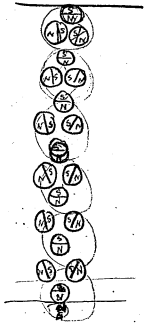
Fundamental —

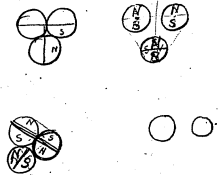


See if it will answer to get Resistance Every 10 feet —




D



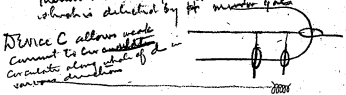


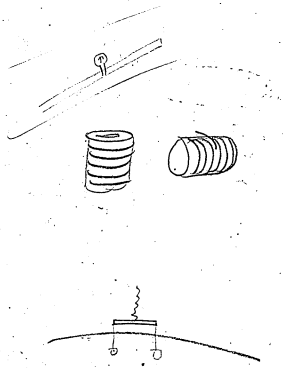
April 15 1886 tal.

Experiment is to determine if heat conducted along a wire is hastened or retarded by the passage of an Electric Current.

The X part is heated by a battery so X becomes white & the surplus heat flows is conducted along d - when heat reaches K which is the part of a good Thermo metal with blast it sets up a Thermo Cont which is detected by the meter G

Device C allows weak Current to be established Circulate along part of d in reverse direction

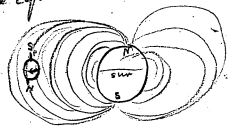




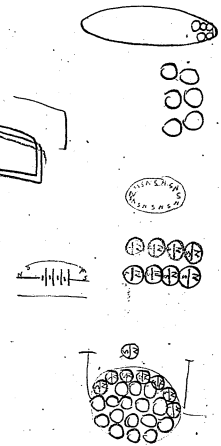
April 18 1886 –

Fundamental.

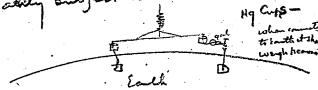
Theoretical gravitation is circulation of an Electric Current around the ~~atom~~ Earth due to rotation of Earth on axis, cutting the lines of force ~~thereon~~ out into space by the sun which is a magnet whose poles are parallel with the poles of the Earth, The Current circulation ~~from~~ around the Equator which is its greatest circumf. ~~to~~ to both poles in lines parallel with the Equator thus

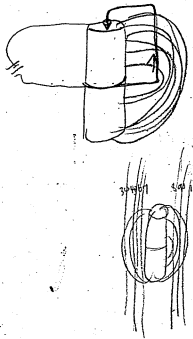


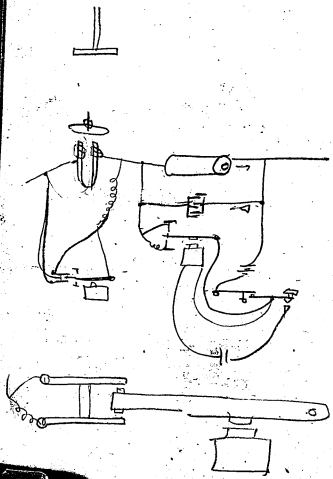
The weight of all matter ~~increases~~ diminishes (10) attraction diminishes until we reach the Center of the earth. ~~Excess~~ matter ~~gravitated~~ on the surface of the Earth is attracted by static attraction. hence the weight of ~~the~~ diminishes as we recede from the Earth: a piece of matter which weighs one lb by a spring balance on the sea level

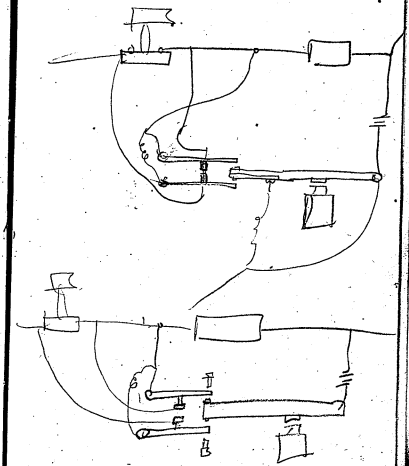


shared weigh less 5 miles from the Earth in a balloon - Now here is an experiment to determine if the attraction due to any current passing around the earth ~~on~~ on a conductor is perceptibly greater when allowed to ~~pass~~ be a part of the Earth current or insulated therefrom - ~~ably~~ subject to static attractions



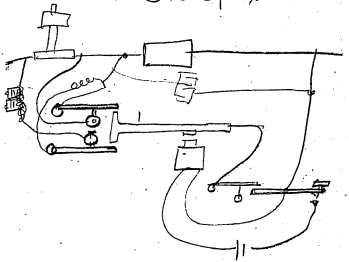




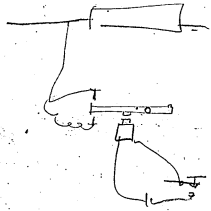


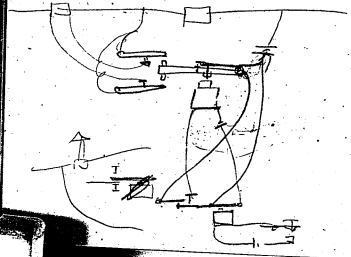
April 21. 1886

Phonoplex -



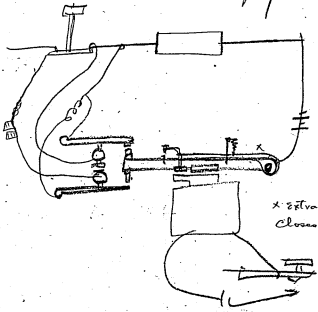
Short circ'g phone partially to weaken outgoing signals + also to auto matically cut Rule sending a dot or dash



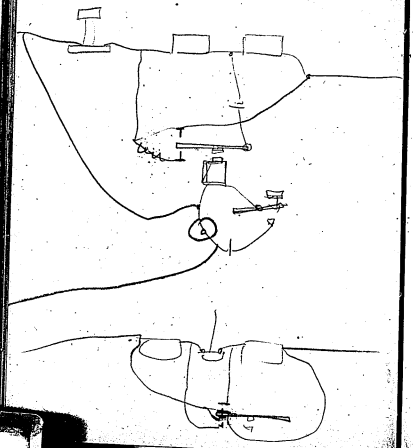


Phonoplex April 21 1886 fac

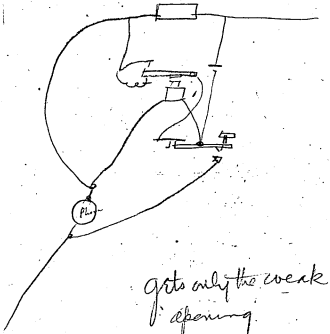
Copy



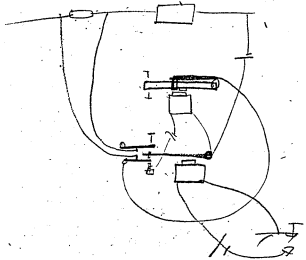
× Extra lever
closes first.



April 21 1886 Tad

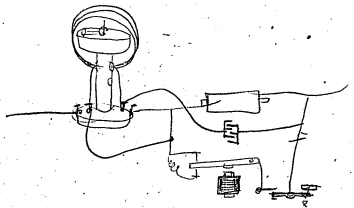


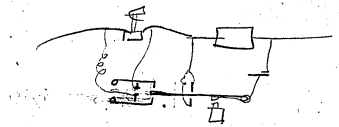
gets only the weak opening

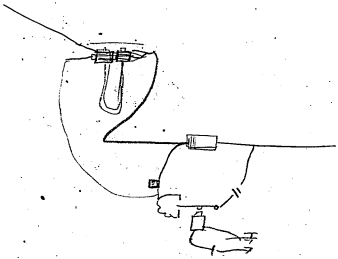


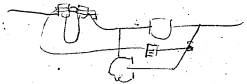
April 21 1886

Phonoplex — go



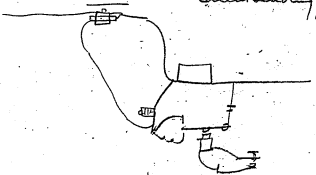




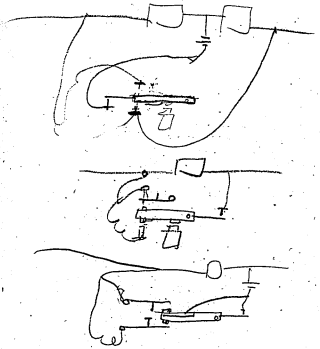


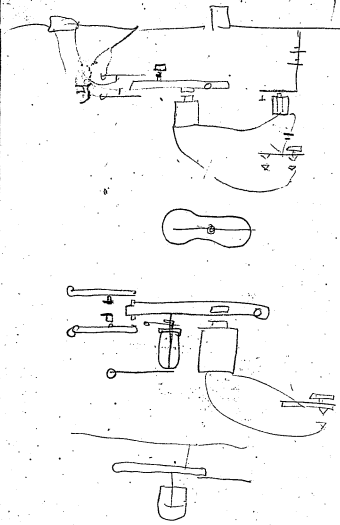
April 21 1886 TAE

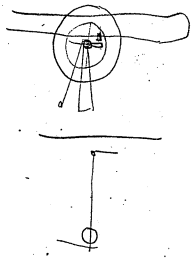
Phonoplex



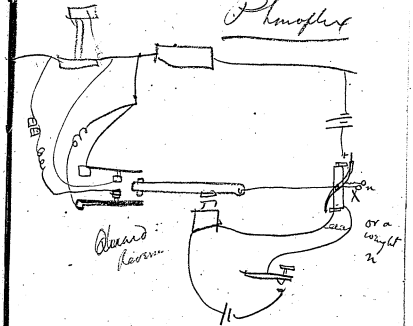
Brings in short-circuiting phone LF when receiving



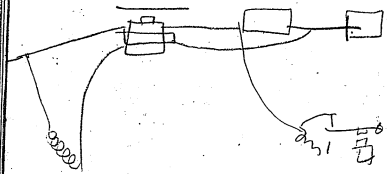


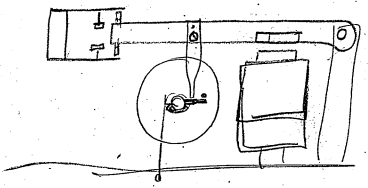


Phosphor



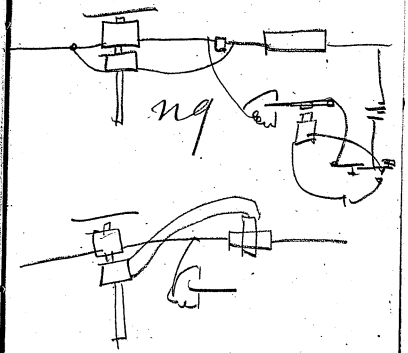
X Brass tube Copper Core
over iron Core

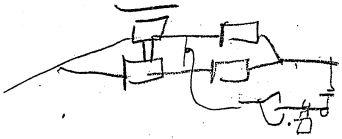


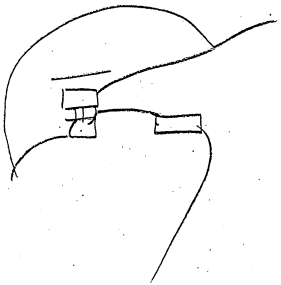


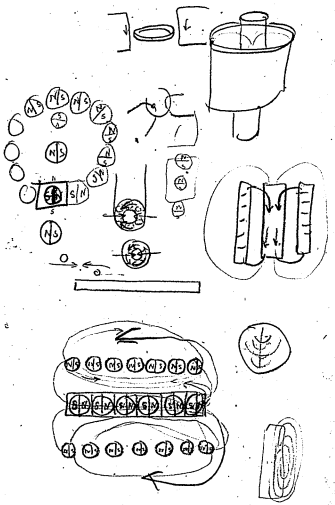
April 21 1886 Tas

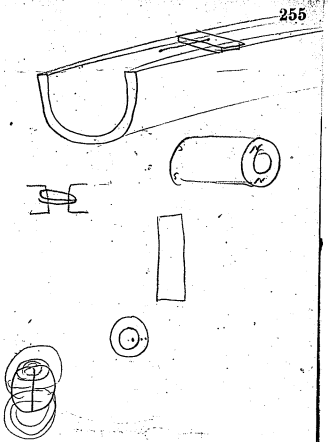
Phenoplex

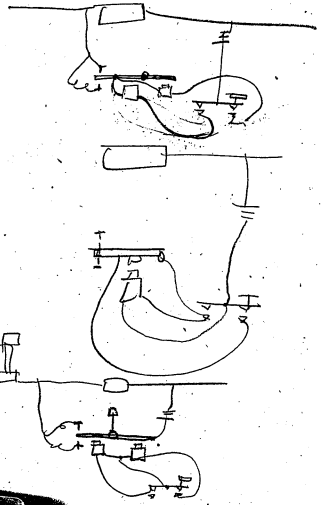


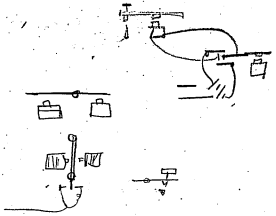


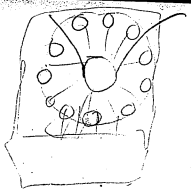


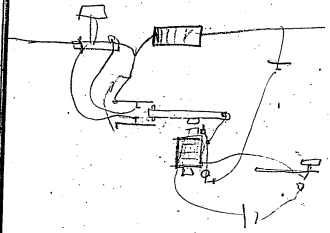


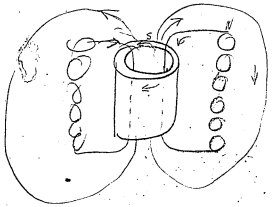








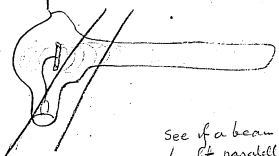




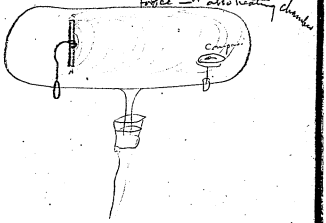
April 22 1886

X42

Tait



See if a beam of Light parallel to its right angles off by lines of force when heating chamber



The boast of heraldry of pomp and power
All that beauty all that wealth ever gave
Alike await the inevitable

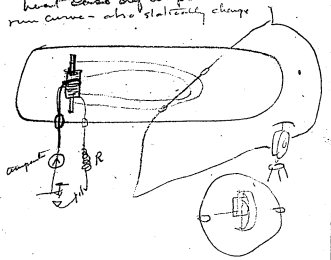
Lorenzo De Medici

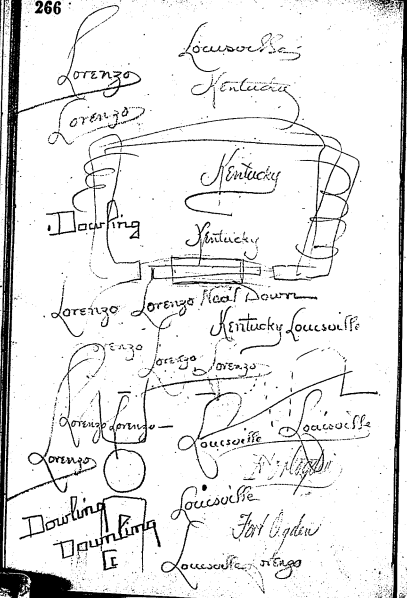
Chicago Milwaukee

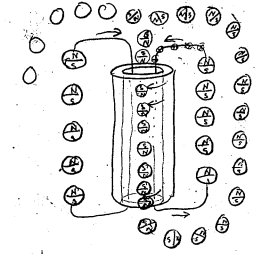
April 22 1886

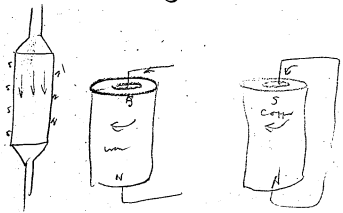
XYZ

Vacuum - run curve of Emf
as Exhaustion proceeds also work
Beam Light both directions
heat - Same def temperature &
run curve - also Stationary charge

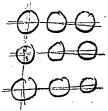


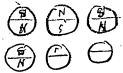

Louisville
Lorenzo
Kentucky
Lorenzo
Kentucky
Dowling
Kentucky
Lorenzo
Lorenzo
Float Down
Kentucky
Louisville
Lorenzo
Lorenzo
Lorenzo
Lorenzo
Lorenzo
Louisville
Louisville
Lorenzo
Kentucky
Louisville
Dowling
Dowling
Fort Ogden
Louisville
Lorenzo

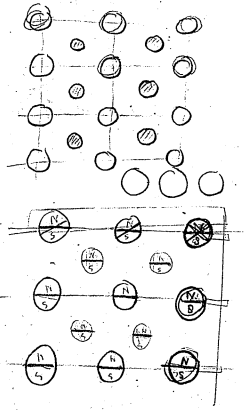




N
S

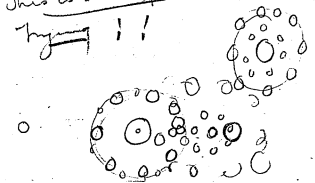


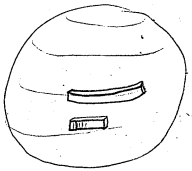


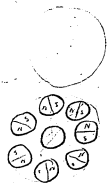


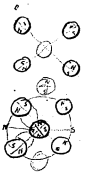
If steel is a compound of Carbon then when cast iron is molten it should decompose with a strong Current (10) a current proportionate as its conductivity is greater than a liquid, using, iron poles the Carbon should go to one pole & pure Iron to other,

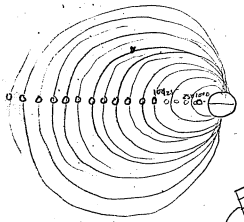
This is an Experiment worth trying!!

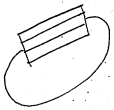


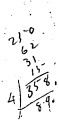


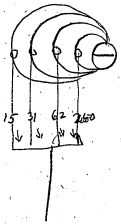


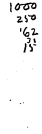


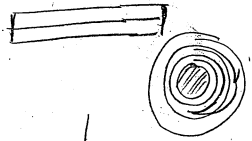


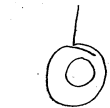
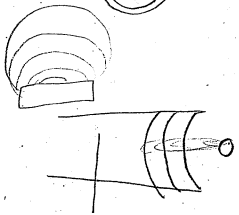





15 31 62 260


1000
250
62
31
15




150